Getting the Most out of Each and Every Asset is your Greatest Asset of All

More than ever, controlling production costs to boost incremental revenues is vital in helping you remain profitable in a fiercely competitive global marketplace.

Now you can be confident you’re getting the maximum productivity and operating efficiencies from your plant assets with the help of ABB’s asset optimization program.

Asset Optimization combines innovative automation architecture plus advanced information technologies, including integrated fieldbus solutions, to monitor and optimize all plant assets in real time. This includes field devices, control systems and automation elements, as well as major assets such as heaters and generators.

This architecture provides the required infrastructure to monitor and record asset performance over the asset’s entire life span. Information subsequently can be used to set future performance and profitability goals and to assist managers in making these decisions.

Asset Optimization significantly reduces costly production interruptions by enabling predictive maintenance. It records an asset’s maintenance history and identifies potential problems to help avert unscheduled shutdowns, maximize uptime and operate closer to plant design limits. Plant managers have the opportunity to collect, compare and monitor data on field devices and larger equipment to accurately assess equipment operating performance in real-time.

As a result, faltering performance can be uncovered before breakdowns occur, and maintenance can be scheduled accordingly.

Elements of Optimize IT Asset Optimization Software include: Maintenance Triggers, Maintenance Interface, Audit Assistant, and Documentation Organizer.

**Maintenance Triggers:** Plug-in applications continuously monitor an individual asset’s status in terms of health and performance to check for irregularities, while providing maximum scalability, flexibility and compliance with open system standards. PROFIBUS, FOUNDATION™ Fieldbus and Excel spreadsheet versions are available. A Software Development Toolkit permits users to generate specialized maintenance triggers for their own equipment.

**Maintenance Interface:** Provides a tightly coupled interface between automation and maintenance systems. Users have the ability to select targeted assets, enter or approve fault report information used to generate maintenance work orders, query past maintenance activities and view upcoming maintenance schedules.

**Audit Assistant:** Retrieves asset-related events with their associated data, including status and process alarms, device failures and maintenance events. This information is often key to the diagnostic and root cause analysis of process upsets and instrument failures.

**Documentation Organizer:** Provides quick, fingertip access to all relevant information related to an asset, such as P&ID and electrical wiring diagrams, device specifications and technical data sheets, maintenance and safety procedures, engineering and calibration procedures, etc. The Documentation Organizer places this documentation, whether in doc, html, jpeg, or virtually any format, within easy reach. These documents and the information within provide strong support for diagnostic, maintenance and repair functions.
In worst cases, device failure may result in process failure and emergency shutdowns. This is why corrective maintenance as a strategy is reserved for devices that have limited impact on process availability and product quality.

With preventive maintenance, devices are inspected on a scheduled basis, whether they require maintenance or not. The plant is shut down, fully or partially, according to a preset schedule so that these devices can be checked to confirm correct and accurate operation. This inspection often results in no changes being made, which is time consuming and costly. Additionally, these devices may have been running for a period of time in their poor state, impairing product quality. When the risk associated with an unexpected failure is too high and there is no cost-effective condition monitoring solution, preventive maintenance is the only option. This approach is the lesser of two evils, in absence of a reliable or economical way to predict the operational health of the device.

With predictive maintenance, the device is constantly monitored and its operating condition assessed, providing early pre-warning of degrading performance and impending failure. Traditionally, this approach required expensive, dedicated condition monitoring equipment and was reserved for expensive, critical machinery. With the advent of fieldbus technology, predictive maintenance has become an affordable option. The wealth of information already available in smart field devices can be communicated to the control system to enable predictive maintenance programs with significant cost savings.

Asset Optimization enables predictive maintenance for a much broader range of assets. Our applications collect, compare and monitor field device data to accurately assess equipment condition in real-time, document when performance falters before breakdowns, and enables personnel to schedule maintenance accordingly. Implementing predictive maintenance greatly reduces traditional, costly corrective maintenance (unanticipated repairs) and preventive maintenance (periodic scheduled maintenance) because only the devices requiring maintenance are serviced. Equipment in good order remains undisturbed.

Through ABB's Asset Optimization Solution, companies can achieve optimum resource allocation and therefore, the benefit of maximum return on plant assets.